



March 2002

Ethanol

Ethanol, a renewable fuel produced from agricultural products and materials, is one of the best tools we have to fight air pollution from vehicles. Ethanol contains 35 percent oxygen. Adding oxygen to fuel results in more complete fuel combustion, thus reducing harmful tailpipe emissions. Ethanol is non-toxic, water soluble and quickly biodegradable.

Q ————— **How does the use of ethanol impact emissions?**

A Ethanol reduces toxic air emissions from motor vehicles by 30 percent, including emissions of benzene, a known human carcinogen. It reduces tailpipe carbon monoxide emissions by as much as 30 percent. Additionally, ethanol reduces particulate matter (soot) emissions, especially fine particulates that pose a health threat to children, senior citizens, and those with respiratory ailments.

The use of ethanol reduces volatile organic compound (VOC) emissions from motor vehicle exhaust by 12 percent. In the Chicago area, summertime VOC emissions are reduced by 100 tons per day with the use of ethanol-blended reformulate gasoline.

Q ————— **How does the use of ethanol impact greenhouse gas emissions?**

A Ethanol is produced from a renewable source, unlike petroleum-based fuels that have limited supply and are a major contributor of carbon dioxide emissions, a greenhouse gas.

The use of grain-based ethanol reduces greenhouse gas emissions 35-46% compared to conventional gasoline. Biomass ethanol provides even greater reduction.

Q ————— **How does the use ethanol impact the economy?**

A The increased production and use of ethanol has increased economic development and job creation throughout the nation.

Illinois, the largest producer of ethanol in the country, produces more than 40 percent of the nation's supply. Illinois also uses more ethanol than any other state. Illinois farmers produce approximately 45 percent of the corn used nationally in the production of ethanol. One in every six rows of corn goes to the production of ethanol and adds \$870 million in gross income to state corn growers.

Q ————— **How does ethanol affect engine performance?**

A Ethanol is a high quality, high-octane fuel capable of reducing air pollution and improving automobile performance. Because ethanol is the highest-octane fuel on the market, it helps your car run more smoothly. It also keeps your fuel system clean for optimal performance. Today, all vehicles are built to be compatible with ethanol-blended fuels and are warranted for its use. Vehicle manufacturers approve the use of 10 percent ethanol blended fuels, and several even recommend ethanol for its positive environmental impacts.

Q ————— **How does ethanol affect our nation's energy security?**

A The U.S. imports over half percent of its petroleum needs today. Energy experts predict that by the end of the decade the U.S. will import 60 percent of its petroleum needs. The use of ethanol directly displaces imports of foreign oil and gasoline additives. Ethanol-blended fuels currently account for 12 percent of all automotive fuels sold in the U.S. As a domestic, renewable source of energy, ethanol can reduce our dependence on foreign oil and increase the United States ability to control its own security and economic future.

Air Facts

Q**Does it take more energy to produce ethanol than the ethanol provides?****A**

Whether produced from corn or other biomass feedstocks, ethanol generates more energy than used during its production. Significant efficiency improvements that have been made ranging from the production of higher yielding corn varieties to technological advancements in ethanol production. A 1996 study by the U.S. Department of Agriculture reviewed the entire fuel-cycle and concluded that ethanol contains 34 percent more energy than is used in the production process, including the energy to grow, harvest, and process grain into ethanol.

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